



Lake Mead National Recreation Area Environmental Education

FIELD PROGRAM

Grade 4

“To Seed or Not to Seed”



What do plants need to start new life in the desert? Take a hike and discover the special requirements plants need to germinate. Students will measure and record weather conditions and compare a variety of plants that live in the Mojave Desert.

THEME

Desert plants require special weather conditions for seeds to germinate.

OBJECTIVES

Students will compare soil and air temperatures.
Students will compare at least two different seeds or plants.
Students will measure and record wind speed.
Students will compare two methods of seed dispersal.

VOCABULARY

adaptation - a physical or behavioral feature of an animal or plant that helps it survive in its habitat
annuals - plants that complete their growth in one growing season
germinate - to begin to sprout or grow
perennials - plants that renew the top growth seasonally; they may live for an indefinite number of years
seed dispersal - ways in which seeds are transported from plant to the soil

BACKGROUND INFORMATION

Lake Mead National Recreation Area is located in the Mojave Desert. The Mojave Desert is the hottest and driest of the North American Deserts, receiving an average yearly rainfall of 4 to 6 inches. The plants found in this arid region have specifically adapted to the harsh conditions of extreme heat, little or no rainfall, the drying effects of the wind, and the intense sunlight.



There are three different types of plants that can be found here. During times of drought, the seeds of drought escapers lie dormant in the soil. They will only germinate when rainfall conditions are sufficient. Drought evaders reduce all but essential life processes and they will even drop their leaves. Drought resisters have specific adaptations that enable them to survive during dry conditions. They can store water, have extensive root systems, reduced leaf surface, waxy coating to retain moisture or light colored to reflect the sun's rays.

BEFORE THE FIELD TRIP ACTIVITY

Have your students create their own field journal. Journals provide a means of recording observations in the field and can be accessed at a later date for comparison studies. Include space for the date, air temperature, soil temperatures, wind speed, and space to draw several seeds or plants. Take a look around your school yard. What types of plants are growing there? In their journals have the students draw at least three different types of seeds (if seeds are not available then draw three different types of leaves.) Compare their size, shape and outer coverings. Please be sure the students bring their field journals with them on the day of the field trip.

AFTER THE FIELD TRIP ACTIVITY

Now that your students have learned what it takes for a plant to survive in the Mojave Desert, look again in the school yard for three plants that have at least one characteristic of a native desert plant that they saw on the field trip. Record the information in the field journals.

REFERENCES

Braus, Judy, *Ranger Rick's Nature Scope Discovering Deserts*
National Wildlife Federation (1989)

Bowers, Janice Emily, *Shrubs and Trees of the Southwest Deserts*
Southwest Parks and Monuments Association (1993)

MAKING A DIFFERENCE! Your students can begin to make a difference wherever they live! Have your class come up with a project using the experience from their field trip to Lake Mead National Recreation Area to show others that they care about our desert community.



Teachers! - check out our new web site with an extensive classroom section:
<http://www.nps.gov/lame/classroom>